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**DEPARTMENT OF THE ARMY**  
**OFFICE OF THE ADJUTANT GENERAL**  
**WASHINGTON, D.C. 20310**

IN REPLY REFER TO

AGAM-P (M) (7 Mar 68) FOR OT RD-674299

13 March 1968

**SUBJECT: Operational Report - Lessons Learned, Headquarters, 5th  
Battalion, 2d Artillery, Period Ending 31 October 1967 (U)**

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1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT RD, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

*Kenneth G. Wickham*

KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

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**DEPARTMENT OF THE ARMY  
5TH BATTALION (AW)(SP) 2D ARTILLERY  
WITH  
BATTERY D (MG) 71ST ARTILLERY AND  
BATTERY I (SLT) 29TH ARTILLERY ATTACHED**



**OPERATIONAL REPORT - LESSONS LEARNED  
FOR QUARTERLY PERIOD ENDING 31 OCTOBER 1967  
(RCS - CS FOR - 65) UIC : WFQJ - AA (U)**

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 5TH BATTALION (AW)(SP) 2D ARTILLERY  
APO San Francisco 96266

11 November 1967

SUBJECT: Operational Report for Quarterly Period  
Ending 31 October 1967 (RCS-CSFOR-65) UIC:WFQJ-AA (U)

THRU: Commanding General  
II Field Force Vietnam Artillery  
APO US Forces 96266

Commanding General  
II Field Force Vietnam  
APO US Forces 96266

Commanding General  
United States Army Vietnam  
ATTN: AVC-DH  
APO US Forces 96307

Commander In Chief  
United States Army Pacific  
ATTN: GPOP-MH  
APO US Forces 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army  
Washington, D.C. 20310

(C) Operational Report - Lessons Learned for Quarter Ending 31 October 1967 is submitted in compliance with USARV Regulation 1-19.

Section 1: Significant Organization Activities

a. During the reporting period the battalion remained assigned to U.S. Army Vietnam, attached to II Field Force Vietnam, with operational control exercised by II Field Force Vietnam Artillery. A Battery remained under the operational control of the 1st Infantry Division. B Battery remained under the operational control of the 25th Infantry Division Artillery. C Battery remained under the operational control of the 9th Infantry Division Artillery. D Battery was in GS of II Field Force Vietnam Artillery.

D Battery (MG) 71st Artillery was employed as follows: 1½ sections (6 mounts) attached to B Battery at Cu Chi; ½ section attached to D Battery and employed at fire support/patrol base Suoi Da; 1 section attached to 6/27 Artillery at Song Be; 1½ sections attached to Task Force Dixie North at Quan Loi; ½ section attached to C Battery and employed at Dong Tam; 1 section attached to 1/83 Artillery at Ham Tan.

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I Battery (SLT) 29th Artillery was deployed as follows: 1st platoon, with platoon headquarters at Phu Loi, was attached to 1st Infantry Division Artillery and employed throughout the division tactical area of operations; 2d Platoon, with platoon headquarters at the battalion base camp at Long Binh, was in GS of II FFORCEV Artillery and employed throughout the II FFORCEV tactical area of operations; 3d Platoon, with platoon headquarters at Cu Chi, was attached to B Battery and employed throughout the 25th Infantry Division tactical area of operations.

Machinegun and searchlight attachments above were for operational control and logistics.

### b. Unit Activities

(1) During the reporting period, elements of the battalion took part in the following operations: Hoptac, Fairfax, Diamond Head, Barking Sands, Kolekole, Coronado III, IV, V and IX, Lanson 67, Portland, Shelby, Akron II and III, Strike I, Kanis, Richmond, Bluefield II, Arkansas City, Shenandoah II, and Narasuan. The battalion base camp at Long Binh was attacked by rockets, mortars, and small arms on 29 August 1967 (7 WIA).

### (2) Administrative/Personnel

#### (a) Strength

As of 31 October	<u>AUTH</u> OFF WO EM	<u>ASG</u> OFF WO EM
5th Bn (AW)(SP) 2d Arty	37 3 658	36 2 614
D Battery (MG) 71st Arty	2 0 112	2 0 100
I Battery (SLT) 29th Arty	<u>7 0 144</u>	<u>4 0 121</u>
TOTAL	46 3 914	42 2 835

#### (b) Gains and Losses: 1 Aug - 31 Oct 67

	<u>GAINS</u>	<u>LOSSES</u>
5th Bn (AW)(SP) 2d Arty	28 2 221	31 3 349
D Battery (MG) 71st Arty	2 0 22	2 0 64
I Battery (SLT) 29th Arty	<u>4 0 38</u>	<u>4 0 65</u>
TOTAL	34 2 281	37 3 478

#### (c) Casualties during the period 1 Aug - 31 Oct 67

<u>TYPE</u>	<u>NUMBER</u>
Killed in Action	1
Died of battle wounds	1
Wounded in action	27
Missing in action	0
Non-battle deaths	0

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(d) Personnel Management:

Replacements did not arrive on schedule as requisitioned. The cause was determined to be primarily the large number of diversions of incoming replacements in grades E2 thru E5. During the period 1-31 October 1967, a total of 271 personnel departed per their normal date eligible to return from overseas. An additional 234 EM are scheduled to depart during the period 1-8 November 1967.

(e) R&R

1. Out-of-country

<u>Location</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>
Hawaii	14	3	9
Hong Kong	14	0	6
Manila	0	2	1
Tokyo	13	2	1
Bangkok	20	6	5
Singapore	6	0	0
Taipei	17	0	6
Penang	4	0	2
Kuala-Lumpur	3	2	0
Malaysia	0	0	1

2. In-country

<u>Location</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>
Vung Tau	20	18	16

(f) Morale: The morale of the battalion is high.

(g) Awards and Decorations

<u>Award</u>	<u>Number</u>
Legion of Merit	1
Silver Star	1
Bronze Star "V"	2
Bronze Star	33
Soldiers' Medal	1
Air Medal	2
ACM "V"	6
ACM	11
Purple Heart	33
Good Conduct Medal	147

(h) Discipline, Law and Order

Article 15	56
Summary Court-Martial	0
Special Court-Martial	1
General Court-Martial	0

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(3) Safety

(a) After a year of combat service many of our M-42's have traveled well over 2000 miles. One result of this wear is the numerous fire hazards that have developed. Fuel leaks have occurred in fuel lines, fittings, especially the cross feed, and at fuel tank seams and mounting studs. Exhaust manifolds and pipes, and worn or damaged mufflers are sources of heat and flame. Exhaust pipe shields and clamps must be firmly in place. Electrical wiring must be checked for proper connection and fraying insulation. To prevent fires these items must be checked daily. Finally, and most important, the fixed fire extinguishers must be fully operational. Linkage must be checked for proper operation, bottles must be weighed for content, and working parts must be freed of any corrosion or "freezing" which may occur.

(b) To prevent dangerous malfunctions, ammunition must be kept clean and dry at all times. This is difficult in an environment of heavy rains where helicopters are constantly raising storms of dust and dirt. Therefore, ammunition must be serviced and then kept completely covered except during firing. Scrap canvas, ponchos, and similar materials may be used to fabricate simple covers.

(c) To be both combat ready and safe, experience dictates that our guns be in the following configuration: For the M-42, there will be rounds in the automatic loader with no rounds on the loading trays and the guns on safe. For the M-55, guns will be in the half loaded condition. The only exceptions are during actual engagement or maintenance.

c. The unit was engaged in combat operations during the entire 92 days of the reporting period. Limited training and in-country orientation were conducted for 317 replacement personnel.

d. No major movements were made during this period.

e. Commander's Notes

(1) Problem Areas

(a) No firm doctrine exists for the employment of automatic weapons in the ground support role. Our elements are widely dispersed with sections and squads under the operational control of infantry, armored cavalry, and artillery units. Lack of doctrinal guidance and lack of familiarity with the weapons often have led to improper utilization or failure to take advantage of the weapons' capabilities. This has been overcome partially by direct contacts with the supported units. The battalion staff, the battery commanders, and I all visit the supported units regularly and make every effort to keep them completely informed on AW employment. In addition, we have written a doctrinal paper, providing planning data and a lessons learned type of guidance. We are submitting this paper to II FFORCEV Artillery for approval and distribution to appropriate commanders and staffs. A copy of the paper, which is entitled: "Employment of Automatic Weapons and Searchlights in Vietnam," is attached as Inclosure 1.

9 (b) The proximity of friendly OP's, LP's, patrols, villages, and military bases often imposes a severe limitation on the effective use of AW. Restrictions take the form of rules of engagement for each AW location, and they vary widely throughout our area of operations. These limitations have been overcome insofar as possible by the close personal contact of our senior man at each location (often an E-6) with the supported unit; by establishing joint SOP's for AW employment; and by collocating our AW TOC with that of the supported unit.

## (2) Personnel and Logistic Support

(a) With the battalion now at the end of its first year in Vietnam, a major personnel replacement program is underway. Replacements are lagging losses by up to 45 days. The lag has been especially critical in weapons crewmen. Messhalls have been closed and administration cut to a minimum. With administrative and service personnel used in manning, all weapons have been kept operational. However, many weapons have had severely reduced crews. It is anticipated that this situation will be relieved by mid-December. In the interim, II FFORCEV has directed that supported units make personnel available as loaders and ammunition handlers in the AW crews. Through these means, the effectiveness of AW support will be maintained.

(b) This battalion has experienced difficulty in obtaining repair parts for both the M-42 and M-55, as well as for the searchlights.

1. Extractor spindles, extractor arms, both left and right inner cranks, engines, generators ("Little Joe"), final drive hubs, mufflers, and track shoes are difficult to obtain for the M42A1.

2. Main power switches, voltage control boxes, gear boxes, and linkages have been difficult to obtain for the M-55.

3. 180 amp regulator, MFG. Part No. R0013775EA, 180 amp alternator, FSN 2920-638-3822, and 180 amp rectifier, FSN 6130-927-9393, repair parts for the searchlight are not available and the major item must be evacuated to CONUS for overhaul. Turn-around time on these assemblies is frequently in excess of 30 days.

4. The above items are peculiar to our equipment and are in short supply. The items listed are those that have caused deadlines during the reporting period.

(c) General logistical support has been marginally adequate. Requisitions for rapid turnover items such as tropical fatigues and boots have been outstanding for several months.

1. Experience has indicated that unless requisitions are hand carried from the initiator through channels to the supply point, the normal processing period to date of issue is frequently in excess of 120 days.

2. Every-day-use expendable office supplies, such as staples and paperclips, are practically non-existent in self-service supply centers. The non-availability of essential items encourages hoarding and requisitioning in excess of required amounts.

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(d) Direct support maintenance is furnished by divisional and non-divisional Ordnance units located in the vicinity of each element of the battalion. DS contact teams customarily provide this maintenance support; however, the M-55's and searchlights have not received adequate support. For the past 30 days (October), this battalion has had a five-man contact team attached from the 185th Maintenance Battalion. This team consists of three automotive mechanics, one armament mechanic, and one searchlight mechanic. It has been attached for the purpose of providing direct support in areas that are not or which cannot be adequately covered by the divisional and non-divisional units located near each battery. This team has completed 27 DS work requests since attached, and has been invaluable.

(3) Joint Operations

(a) M-42's were used in a perimeter security mission with the artillery battery of the Royal Thai Army Volunteer Regiment.

(b) Numerous defensive concentrations (DEFCONS) were fired in support of ARVN forces.

(4) Tactical/Technical Improvisations

(a) A metal bracket was fabricated to mount the Starlight Scope on the sight arm of the M-42. The Starlight Scope is aligned by boresighting. The combination has proved extremely effective.

(b) Corrugated steel culvert sections have been covered with sand bags to make hasty overhead cover vital to the protection of AW crews in the field. This has been done in particular where digging into the ground is not possible due to the near surface water table.

Section 2, Part I - Observations/Lessons Learned

AW Coordination (U)

ITEM: (U) The effectiveness of AW fires depends on close and continuous coordination with the supported unit.

DISCUSSION: (U) The history of AW in the ground role and our current employment in Vietnam point out the need for the following at each AW location:

a. The senior man (preferably an officer, at least initially) must gain and maintain firm contact with the supported unit. He should attend briefings and make personal visits on a daily basis.

b. Primary and alternate means of communication must be established with the supported unit.

c. Rules of engagement must be worked out in detail with as much freedom to fire as the situation permits.

d. AW TOC should be collocated with supported unit TOC.

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e. Location of friendly LP's, OP's, patrols, and emplacements must be known on an up-to-the-minute basis.

f. Range cards out to the maximum range of the weapon, for direct and indirect fires, must be complete and meticulously coordinated with the supported unit.

OBSERVATION: (U) Detailed and continuous coordination with the supported unit is a mandatory requirement in AW employment.

### Mobile Training Team (U)

ITEM: (U) A request from MAAGTHAI for assistance in training the Royal Thai Artillery (RTA) in the use of the M-42 and M-55 was submitted through channels and resulted in a requirement for this battalion to furnish a Mobile Training Team (MTT).

DISCUSSION: (U) The MTT, comprised of one lieutenant platoon leader and four NCO's from the battalion, underwent an intensive and comprehensive training program to insure the highest quality instruction possible. The MTT departed for Thailand on 29 August 1967 and returned on 18 October 1967. They supervised and assisted in the deprocessing of the equipment when it arrived in Thailand and trained 19 officers and 59 NCO's of the 4th AAA Battalion, 2d Regiment, RTA. Training included:

- a. M-55 24½ hrs.
- b. M-42 52½ hrs.
- c. Maintenance review: 12 hrs.
- d. Range firing at ground targets and critique: 3 days
- e. There was no air defense firing due to the inability of the RTAF to provide a towed target.

OBSERVATION: (U) With exception of the air defense firing phase, the mission was accomplished to the satisfaction of all and with many compliments bestowed on the MTT. The 4th AAA Bn now has the capability with its own cadre to conduct its future training on the M-42/M-55 weapons and achieve satisfactory results.

### AW in the Combined Arms Team (U)

ITEM: (U) While supporting an infantry brigade, an AW (M-42) battery acted as the control headquarters for a combined arms team.

DISCUSSION: (C) During the reporting period, A/5/2 was under the operational control of the 2d Brigade, 1st Infantry Division. The mission was perimeter security for the brigade field CP (w/10 M-42's) and security for an isolated fire support base (w/6 M-42's). In addition, the battery commander was given overall responsibility for the defense of the brigade CP perimeter, and for clearing and outposting roads in the area during daylight hours. To accomplish this mission the battery commander, at various times, had infantry up to a company in strength and armored cavalry attached. The AW were used as an economy of force measure to free infantry forces for operations outside the brigade CP area. The brigade staff expressed complete satisfaction.

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with the conduct of the mission.

OBSERVATION: (U) AW may be used effectively in the combined arms team. When required, the AW battery HQ is capable of acting as the control element for a combined arms team.

### Replacement Training (U)

ITEM: (C) During the period of this report, the battalion received 34 officer replacements, 13 of whom were not AW qualified. There were 281 enlisted replacements, as follows:

- a. Common specialists - 114
- b. AW qualified - 108
- c. Not AW qualified - 59

DISCUSSION: (U) As a unit actively engaged in combat, this battalion has neither adequate time nor the instructor base necessary to present extensive AW training to replacements. New arrivals receive a minimum of two days training. The first day is spent on instruction on and familiarization firing with the M-16 rifle, M-60 machine gun, M-79 grenade launcher and caliber .50 ground mount machine gun. During the second day, instruction includes communications procedures, security and SAEDA, physical security, mines and booby traps, vehicle recovery, materiel readiness, medical problems, and a short history of the battalion to include a map orientation of our area of operations.

Individuals who require AW training receive an additional two day course on the M-42 or M-55 as appropriate, which includes classroom work and practical application on functioning, care and cleaning of the vehicle and main guns, driving, and firing.

After the replacements go to their batteries of assignment, they receive continued training through OJT on a variety of subjects to include maintenance, communications, safety, convoy procedures, driver training, field fortifications, direct/indirect fire techniques and procedures, range cards, small arms, and field sanitation.

OBSERVATION: (U) Even with the limited time and training facilities available, it is possible to give replacements a feel for the problems involved in field operations. If all replacements programmed for AW units could receive an AW orientation prior to departing CONUS, they would be better prepared to face the problems peculiar to AW employment in the ground support role.

### Use of M-42 Maintenance Floats (U)

ITEM: (U) Use of M-42 maintenance floats may be desirable under certain circumstances.

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DISCUSSION: (U) During the period of the report, one or more maintenance floats have been available at the battalion base camp. None of the firing batteries are at the base camp. However, there is a need to defend the base camp and to return fire in the event of attack. There is also a need to provide initial training to personnel assigned for duty in the 13F MOS who have no prior experience with the M-42.

OBSERVATION: (U) M-42 maintenance floats are kept combat ready and have standby crews made up of headquarters personnel. They are used as a reaction force in the event of attack. They are also used in the training of replacement personnel.

### Interior Airlift of M-55 (U)

ITEM: (U) A requirement was placed on this battalion to supply perimeter security for a fire support/patrol base with M-55's at a remote location.

DISCUSSION: (C) On all previous operations which required M-55 perimeter security for areas inaccessible by road, the M-55 was lifted as a sling load by a CH-47 (Chinook). However, with the opening of the fire support/patrol base at Song Be, it was deemed necessary to have the prime mover accompany the M-55 because of the expected duration of the operation and the immobility of the M-55 when dismounted from its prime mover. Thus, the M-55's required for perimeter security at Song Be were transported as internal loads on C-124 aircraft.

OBSERVATION: (U) When facilities are available for transporting the M-55 with its prime mover it is highly desirable to do so. This affords greater mobility of the weapon and therefore more effective perimeter security. The weapon can be moved equally well on a C-130 aircraft.

### Ambush (U)

ITEM: (U) On an allegedly secure road an ambush occurred in which two men from this battalion were killed.

DISCUSSION: (U) On 14 October 1967, during the RVN election campaign, two men from this battalion were travelling on Highway 4 southwest of Saigon when they were ambushed by an unknown number of VC. Apparently the vehicle ran off the road after the first burst of firing and then one or more VC approached the vehicle and shot the two men at point blank range with an AK-47. Several empty shell casings from an AK-47 were found in and around the vehicle. One man died instantly and the other died in surgery.

OBSERVATION: (U) Even though a road or an area may be considered secure, terrorist activities should be expected at any time and personnel should avoid travelling alone. This is especially true during periods of increased government activity when the VC desire items of propaganda value to counteract the government action.

### H&I fires (U)

ITEM: (U) Security missions at remote locations often call for 40mm or caliber .50 H&I fires.

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DISCUSSION: (U) Automatic weapons are often used as an economy of force measure in perimeter security. Where known or suspected enemy locations exist, H&I fires can restrict enemy movement and block likely avenues of attack.

OBSERVATION: (U) AW H&I Fires have proved to be very effective in providing security at isolated bases. Experience to date indicates that the presence of AW and their H&I fires is a genuine deterrent to enemy attack.

### Section 2, Part II RECOMMENDATIONS

#### Communications Problems (C)

ITEM: (U) This battalion is deployed over the entire III Corps Tactical Zone and current communications equipment is inadequate.

DISCUSSION: (C) Elements of this battalion are frequently deployed in as many as 40 locations in the III CTZ, with a few locations in the IV CTZ. Elements are located at distances as great as 60 miles in all directions from the battalion headquarters. This distance far exceeds the rated range and capabilities of the AN/VRC-46, which is the only communications equipment presently in the battalion. In addition, as future operations are undertaken, it is anticipated that elements of the battalion will be at even greater distances from the headquarters. It is imperative that the battalion has the capability of maintaining communications with all of the subordinate units. By TOE the battalion is authorized 23 ea. AN/GRC-106 radios which would provide the necessary range capability. These radios have been requisitioned by II FFORCEV Artillery and as of last status, they are expected in country in February 1968.

RECOMMENDATION: (U) That emphasis be placed on the issue of AN/GRC-106 radios to this battalion at the earliest possible date.

#### Increased Crew Members for M-55 (U)

ITEM: (U) Under TOE 44-58T, the M-55 is authorized a crew of four men.

DISCUSSION: (U) The M-55's have been used extensively as convoy escorts. Under the current TOE, one of the assistant machine gunners (cannoneer) is one vehicle driver, which leaves the crew one man short in the event the convoy makes contact. It is elementary that the convoy cannot stop to allow the driver to perform his duties during engagement. In addition to daylight convoys, the M-55's are employed at night on the perimeter of isolated bases. With 24-hour-a-day operations and the requirement to build extensive protective revetments each time they occupy a position, the four men per crew are not sufficient. To allow the machine gun squads to remain fully combat ready, this battalion has redistributed personnel from other batteries to provide a vehicle driver for each crew. This has, consequently, reduced the other batteries to less than 100% TOE strength. MTOE 44-58T, dated 25 May 1967, requests authorization for 24 additional personnel to serve as vehicle drivers.

RECOMMENDATION: (U) That this provision of MTOE 44-58T be approved and that the 24 personnel be assigned as soon as possible.

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### A Need for Recovery Vehicles (U)

ITEM: (U) This battalion has only one recovery vehicle, which is not sufficient for proper maintenance in all units.

DISCUSSION: (U) Under TOE 44-86F, there is one VTR authorized for the battalion and it is assigned to the Motor Maintenance Section. Elements of this battalion are deployed in as many as 40 locations on any given day and at distances up to 60 miles from the base camp. Thus, in many instances the batteries are required to provide their own maintenance support and recovery facilities. In addition, work of even the simplest nature, e.g. changing spark plugs and oil filters, requires that the M-42 power pack be removed. The battery must either borrow a recovery vehicle from another unit, and such a vehicle often is not immediately available, or wait until the battalion vehicle is free in order to perform the maintenance. This unnecessarily delays a key weapon from returning to operations. As stated in MTOE 44-87F, submitted by this battalion on 25 May 1967, a recovery vehicle, M-578, is urgently needed in each battery.

RECOMMENDATION: (U) That this battalion be issued one M-578 recovery vehicle per M-42 battery at the earliest possible date.

### Starlight Scopes (U)

ITEM: (U) Starlight scopes provide an excellent means of target acquisition when there are no searchlights available.

DISCUSSION: (U) Some months ago this battalion requested issue of one starlight scope for each M-42 and M-55 to increase target acquisition capability. Recently the battalion was issued 24 starlight scopes on a 180 day loan basis. The starlight scopes were divided among the batteries. The battalion designed and fabricated a mounting bracket compatible with the weapons. Use of the starlight scopes in this manner has proven very effective and has greatly increased the night target acquisition capability of the gun crews.

RECOMMENDATION: (U) That starlight scopes be issued on the basis of one per AW mount (64 for M-42 and 24 for M-55) as soon as they can be made available.

### Extended Range Ammunition (U)

ITEM: (U) Available 40mm ammunition is self destructing (SD). The round destroys itself at tracer burnout (range about 3,500 meters).

DISCUSSION: (U) The 40mm gun is capable of firing the standard projectile over 9,000 meters. In the ground support role, direct and indirect fire targets often occur outside the self destructing range of currently available ammunition. An ENSURE Requirement has been submitted for ammunition which is point detonating (PD) but not self destructing (SD). The tracer element is still desirable since night firing is done primarily by tracer observation.

RECOMMENDATION: (U) Extended range, point detonating (PD only) tracer ammunition be made available for use as soon as possible.

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### Additional M-55's (U)

ITEM: (U) The requirement for additional M-55 resources has become increasingly apparent during the year that this battalion has been in Vietnam.

DISCUSSION: (C) M-55's are being effectively employed in the following missions:

- a. Security for fire support/patrol bases
- b. Escort for wheeled vehicle convoys
- c. Ready reaction force/Mobile reserve (roads available)
- d. Helilift/Airmobile operations
- e. Riverine operations
- f. Reconnaissance by fire
- g. Blocking force (block by fire)
- h. H&I fires

In addition, M-55's have been used to replace M-42's in static locations thus freeing the firepower and mobility of the M-42 for offensive operations. There remain a number of sites where M-42's could be suitably replaced by M-55's. Further, while supporting 3 divisions and II FFORCEV Arty (with additional major units expected in our area of operations) there have been numerous missions for M-55's when none were available. Many isolated bases already exist without AW resources. The requirements for security of permanent and semipermanent base camps will multiply as present units enlarge their areas of operation and new units arrive in-country. There have been periods when the 9th Infantry Division alone could have employed an entire machinegun battery. If an additional MG battery were deployed to II FFORCEV area of operations, the 5th Bn (AW)(SP) 2d Arty could:

- a. Provide in-country orientation and indoctrination for personnel.
- b. Provide necessary command and control for the deployed battery.
- c. Infuse experienced personnel from D Btry, 71st Arty.

RECOMMENDATION: (C) That additional machine gun battery, Quad caliber .50, M-55, be deployed to II FFORCEV.

- a. The deployed battery should be trained in the ground support role and in helilift operations.
- b. The primary weapon of the battery should be the new caliber .50 M-85 for the following reasons:

## CONFIDENTIAL

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- (1) Rate of fire selection.
- (2) Fixed headspace and timing.
- (3) Quick change barrels.

*Lake G. Churchill, Jr.*  
LAKE G. CHURCHILL JR  
LTC, Artillery  
Commanding

2 Incl.

1. 5/2 Disposition (C)
2. Employment of AW (U)

GROUP-4

Downgraded at 3 year intervals  
Declassified after 12 years

**CONFIDENTIAL**

19  
AVFB-FAC (11 Nov 67) 1st Ind  
SUBJECT: Operational Reports - Lessons Learned (U)

DA, HQ, II FFORCEV Arty, APO 96266 2 DEC 1967

THRU: Commanding General, II Field Force Vietnam, APO 96266  
Commanding General, United States Army Vietnam, ATTN: AVHGC-DST,  
APO 96375  
Commanding General, United States Army Pacific, ATTN: GPOP-OP,  
APO 96558

TO: Assistant Chief of Staff for Force Development, Department of  
the Army, Washington, D. C. 20310

1. (U) The quarterly report of the 5th Battalion (AW) (SP), 2nd  
Artillery (UIC-W-FQJ-AA) adequately reflects the operations and lessons  
learned during the reported period.

2. (C) The following comments pertain to the attached Operational  
Report - Lessons Learned.

a. Section 1, paragraph e(1)(a). II FFORCEV Artillery is  
processing referenced letter (Inclosure 2) for dissemination to all  
appropriate agencies.

b. Section 2, Part II. Communications Problems. Concur.  
According to established priorities, II FFORCEV Artillery and the 5th  
Battalion (AW) (SP), 2nd Artillery, will receive these radio sets in  
January and February 1968. Distribution of radio sets to the 5th Bn, 2nd  
Arty will be accomplished as expeditiously as possible.

c. Section 2, Part II. Increased Crew Members for M-55. Con-  
cur. The additional M55 quad .50 crew members are considered essential  
to maintain the operational continuity of the weapons system. MTOE's  
44-86F (Headquarters and Headquarters Battery, 5th Bn, 2nd Arty), 44-87F  
(5th Bn, 2nd Arty Firing Batteries) and 44-58F (Battery D, 71st Arty, MG)  
were submitted 25 May 1967. These MTOE's, processed jointly, provide for  
the additional crew members with no requirement for additional personnel  
spaces. Recommend approval subject MTOE.

d. Section 2, Part II. A Need for Recovery Vehicles. Concur.  
An organic recovery vehicle M578 located in each firing battery is con-  
sidered essential for maintaining an acceptable operational readiness  
condition. The 5th Bn, 2nd Arty is currently processing requests for  
these vehicles pending approval of MTOE referenced in paragraph 2c, above.

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DOWNGRADED AT 3 YEAR INTERVALS  
DECLASSIFIED AFTER 12 YEARS  
DOD DIR 5200.10

**CONFIDENTIAL**

AVFEB-FAC (11 Nov 67)

1st Ind

SUBJ: Operational Reports - Lessons Learned (U)

e. Section 2, Part II. Starlight Scopes. Concur. The required Starlight Scopes (88) were requested on a temporary 180 day loan pending approval of AFCE (paragraph 2c above). Twenty-four have been received by the battalion to date. 1st Logistical Command indicated the 5th Bn, 2nd Arty has been given priority for issuance of the additional Starlight Scopes pending availability in-country.

f. Section 2, Part II. Extended Range Ammunition. Concur. This headquarters submitted AFCE action to Headquarters, USAFV, on 14 November 1967, requesting extended range ammunition for the M2 40mm Duster by elimination of the self-destruct feature.

g. Section 2, Part II. Additional M55's. Concur. By secret letter, Headquarters II FROCEV, dated 20 November 1967, subject, "Additional Quad .50 Machine Gun Battery", this headquarters requested attachment of Battery G, 55th Artillery (AG), JCS number 26CC020, to II FROCEV. The present shortage of automatic weapons in III Corps Tactical Zone was reiterated, and future additional requirements were outlined. Recommend Battery G, 55th Artillery (AG) deploy equipped with the new .50 caliber machine gun M-85.



RAYMOND P. FULLER  
Brigadier General, USA  
Commanding

**CONFIDENTIAL**

21  
AVFBC-RE-H (11 Nov 67) 2d Ind  
SUBJECT: Operational Report-Lessons Learned for Quarterly Period Ending  
31 October 1967 (RCS CSFOR-65) (UIC-WDFU TO) (U)


DA HQ II FFORCEV, APO San Francisco 96266 17 DEC 1967

THRU: Commanding General, US Army Vietnam, ATTN: AVHGC-DH, APO 96375  
Commander-In-Chief, US Army Pacific, ATTN: GPOP-OT, APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D.C. 20310

1. Subject report is forwarded.
2. This command has reviewed the attached report and concurs with the comments and recommendations as modified by the 1st Indorsement.
3. p 3, para b,(2)(d), Personnel Management, and p 5, para e, (2)(a), Personnel Shortages. The 5th Battalion (AW) (SP) 2d Artillery, is presently manned at authorized strength. Participation in the USARV Infusion Program during the next eleven months will preclude recurrence of the major personnel shortages discussed in attached ORLL.

FOR THE COMMANDER:

  
R. E. WAMBLES  
CPT, AGC  
Asst AG

# CONFIDENTIAL

AVHGC-DST (11 Nov 67) 3d Ind (C)  
SUBJECT: Operational Report for Quarterly Period Ending 31 October 1967  
(RCS-CSFOR-65) UIC: WFQJ-AA (U)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 26 JAN 1968

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

1. (U) This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1967 from Headquarters, 5th Battalion (AW) (SP) 2d Artillery (FQJA) as indorsed.

2. (C) Pertinent comments follow:

a. Reference item concerning AW qualified personnel, page 8: Concur. Those officers not AW qualified, who are earmarked for assignment to AW units should be programmed to attend the four week Air Defense Artillery Automatic Weapons Officer Course conducted at Fort Bliss, Texas prior to being assigned to a USARV unit. A similar course for enlisted replacements should be established.

b. Reference item concerning increased crew members for M-55, page 10. Higher priority requirements exist in USARV for personnel spaces; therefore, additional crew members are not favorably considered at this time.

c. Reference item concerning recovery vehicles, page 11. Additional recovery vehicles have been included in MTOE 44-87F which has been forwarded to DA for approval.

d. Reference item concerning starlight scopes, page 11: Nonconcur. Crew Served Weapon Sight, AN/TVS-2, was designed specifically to be mounted on weapons described. The small starlight scope, AN/PVS-1 or 2, was designed to be hand held or mounted on a rifle. The range of the AN/TVS-2 is greater than the AN/PVS-1 or 2. Battalion should submit an MTOE for the AN/TVS-2. The 180 day loan was based on a need for perimeter defense.

e. Reference item concerning additional machine gun battery, page 12; and 1st Indorsement, paragraph 2g. On 2 December 1967, MACV approved the assignment of Battery G (MG), 55th Artillery to II FFORCEV. This unit is scheduled to arrive in RVN in February 1968.

3. (U) A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:

*C. S. Nakatsukasa*  
C. S. NAKATSUKASA  
Captain, AGC  
Assistant Adjutant General - CECMP 4

Copy Furnished:

HQ, 5th Bn (AW) (SP) 2d Arty  
HQ, II FFORCEV

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Declassify on: 10 years  
DOD DIR 5800.10 Applies



Y3

GPOP-DT(11 Nov 67)

(U) 4th Ind

SUBJECT: Operational Report for the Quarterly Period Ending 31 October  
1967 from HQ, 5th Bn (AW)(SP) 2d Arty (UIC: WFQJAA) (RCS  
CSFOR-65)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 1 MAR 1968

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding  
indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

*[Handwritten signature]*  
K. F. OSBOURN  
MAJ, AGC  
Asst AG

23-

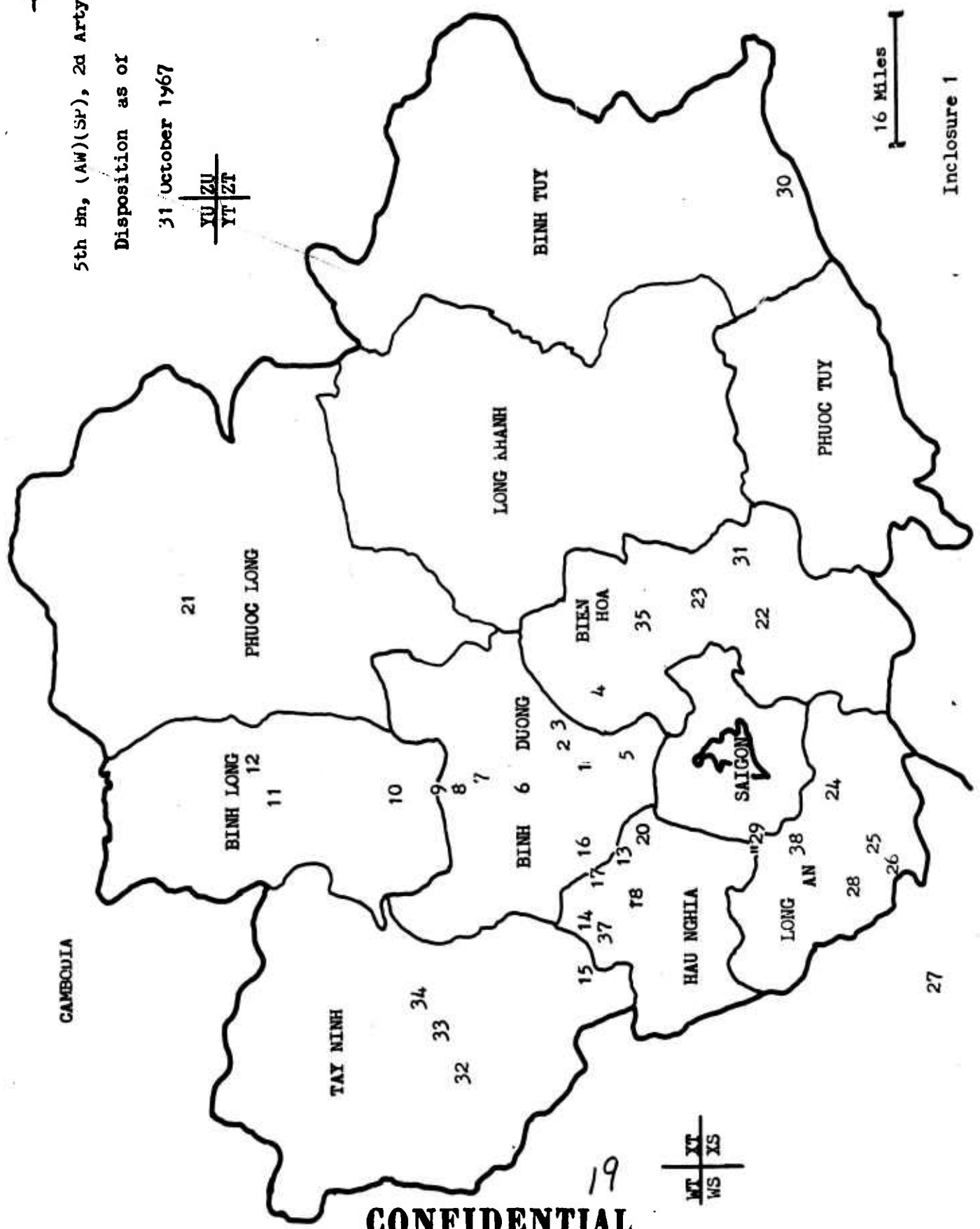
5th Bn, (AW)(SR), 2d Arty

Disposition as of

31 October 1967

YU ZU  
YT ZT

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16 Miles

Inclosure 1

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YT XT  
WS XS

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Key for Inclosure 1  
5th Bn, (AW)(SP), 2d Artillery  
Disposition, 31 October 1967

1. Phu Loi
2. Dagger FWD
3. Red leg III
4. Rock Quarry XT 965080
5. Normandy I
6. Lai Khe
7. FSPB XT 786446
8. FSPB XT 790467
9. FSPB XT 790556
10. FSPB XT 770615
11. An Loc
12. Quan Loi
13. Cu Chi
14. FSPB Bess
15. Go Dau Ha
16. FSPB Peggy
17. Trung Lap
18. FSPB Gertrude
20. FSPB Nancy
21. Song Be
22. FSPB Red
23. Bear Cat
24. Rach Kien
25. Tan Tru
26. Binh Phuoc
27. Dong Tam
28. Tan An
29. Pineapple Patch
30. Ham Tan
31. Binh Son
32. Tay Ninh
33. Nui Ba Den Quarry
34. Suoi Da
35. Long Binh
36. Dau Tieng
37. Trang Bang
38. Ben Luc

Incl. 1

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2.

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 5TH BATTALION (AW)(SP) 2D ARTILLERY  
APO San Francisco 96266

10 November 1967

SUBJECT: Employment of Automatic Weapons and  
Searchlights in Vietnam

TO: Commanding General  
II FFORCEV Arty  
APO San Francisco 96266

1. The 5th Battalion (AW)(SP) 2d Artillery has completed one year of service in Vietnam. Lessons learned from experience in operations during the year are summarized here to assist in planning and the further employment of the twin 40mm M-42, Quad calibre .50 machine gun M-55, and Xenon searchlight AN/MSS-3.

a. Employment has been characterized by wide dispersion of units in support of the 1st, 9th, and 25th Inf Divisions, and IIFORCEV Artillery. The battalion has occupied as many as 40 locations at one time.

b. The 5th Bn (AW)(SP) 2d Arty, with its organic M-42's and attached M-55's and searchlights, has been employed in the ground support role. No air defense mission is anticipated in the near future.

c. Inclosure 1 provides characteristics and capabilities to assist in planning AW employment.

2. When properly employed, the AW have been extremely effective against the enemy on the ground. Quick reaction and heavy volume of accurate fire have proved to be a genuine deterrent to enemy attack where they are employed. However, when improperly employed, both the M-42 and M-55 develop serious maintenance problems. Extended driving at low speed through difficult terrain, such as on search and destroy missions, causes excessive wear on engine, transmission, and suspension parts. The M-55 with armor kit and basic load of ammunition is not capable of operating off of improved roads.

a. Suitable missions for AW.

(1) Direct fire

(a) Preparatory and covering fires (e.g. base of fire)  
for maneuver elements.

Incl 2

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- 25
- (b) Reconnaissance by fire
  - (c) H&I fires
  - (d) Fire at designated point targets
  - (2) Indirect fires
    - (a) On call (observed or unobserved)
    - (b) Defensive concentrations (DEFCONS)
    - (c) H&I fires
  - (3) Mobile reserve/Ready reaction force
  - (4) Blocking force (block by fire)
  - (5) Helilift (M-55 only)
  - (6) Riverine (M-55 only)
  - (7) Security missions
    - (a) Perimeter security
      - 1. Base camps
      - 2. Fire support/Patrol bases
    - (b) Convoy escort
    - (c) Security for road clearing, construction, Rome plow, and other similar missions.

**b. Unsuitable missions for AW**

- (1) Cavalry operations, such as screening and reconnaissance
- (2) Cross country movement in jungle terrain
- (3) (M-42 only) Missions requiring a firing range of less than 50 meters (round detonates on foliage or any other obstacle) or greater than 3500 meters (range of self-destruction). Firing of the M-42 into or through underbrush or foliage at close range is dangerous to friendly forces because of the round's sensitive point detonating characteristic.
- (4) (M-55 only) Missions of escort or security for tracked vehicles such as SP artillery. M-55 mobility is not compatible with that of tracked vehicles.

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3. Considerations for a choice between the M-42 and the M-55.

a. Both M-42 and M-55 are capable of indirect fire. However, for speed and accuracy in the indirect role, the M-42 is preferable.

b. When fields of fire are 100 meters or less and heavy volume, close-in fire is desired, the M-55 is preferable.

c. In static locations where firepower is required and mobility is not, the M-55 should be used. In some perimeter security missions the M-55 prime mover (2½ ton truck w/armor kit) becomes a liability and consideration should be given to airlift of the mount, ammunition, and crew. When the mount is separated from its prime mover, it is not able to move to reinforce at adjacent locations or provide security for elements away from its fixed position.

d. The cal. .50 projectile may ricochet up to its maximum range. The 40mm round is point detonating (PD) and normally will self-destruct (SD) within its 3500 meter maximum range (i.e. tracer burnout). Occasional ricochets to greater ranges may occur.

4. Constant, detailed maintenance is an integral part of AW operations.

a. To maintain a high level of combat readiness, maintenance time must be provided by the commander and extensive maintenance must be performed by the crews. This is particularly true on tracked vehicles.

b. Replacement parts for AW equipment are now arriving in Vietnam. With a few exceptions supplies are adequate. The ASL maintained at the battalion base camp is the primary stockage point. However, the direct support maintenance battalions of the divisions are now stocking common AW parts and their responsiveness is a critical factor in the combat readiness of the AW batteries. Wrecker support at each battery, for lifting power packs and mounts, is especially important.

c. Also inherent in a high state of combat readiness is the need for gun and vehicle exercise. Guns should be fired and vehicles should be driven at least six miles each week to ensure proper functioning.

5. Each AW and searchlight position must be selected to give maximum fields of fire and observation. Mutual support between two or more weapons and between two or more searchlights should be achieved wherever possible. Once the position is determined, each of the following must be worked out in detail:

a. Primary and alternate means of communication to supported unit.

b. Rules of engagement including:

(1) Authority to return hostile fire. (Maximum possible freedom to fire is necessary for effective employment.)

(2) Location of friendly forces, villages, and LP/OP's on an up-to-the-minute basis.

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c. Detailed range cards with emphasis on range and direction to obstacles and likely targets.

d. Field fortifications to obscure AW and searchlight silhouettes and to protect mounts and crews from RPG and small arms fire. Infantry, areas cleared of cover and concealment, and protective devices must be used to keep RPG and recoilless gunners out of effective range. The thin frontal armor and open turret of both the M-42 and the M-55 make them extremely vulnerable to rocket and grenade attack.

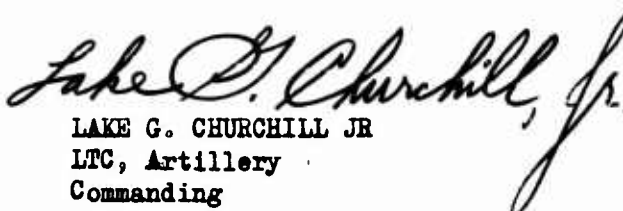
6. Specific employment of AW and searchlights will vary depending on the terrain and mission. However, certain rules have been derived from the past year's experience:

a. Employment in pairs, is essential to give mutual support, provide for vehicle recovery, and maintain section (command) integrity.

b. When two or four are employed, they will be most effective at the corners of a rectangular perimeter. However, in this position they are also most vulnerable to enemy attack and require extensive field wire, protective devices, and revetment protection.

c. Searchlights, starlight scopes, or anti-personnel radars significantly enhance the use of AW during periods of limited visibility. The searchlights or radars can provide accurate direction to the target for the automatic weapons when their azimuth indicators are laid parallel. In this manner, a target can be effectively engaged without actual observation of the target by the crew.

7. Searchlights are normally used in the infra-red mode. This allows illumination of the battlefield without disclosing friendly locations. White light may be used for brief periods to illuminate targets for crew served or automatic weapons engagement. Infra-red reflections from even small obstacles will block the operator's vision. Therefore, broad, clear fields of vision are necessary for effective employment. In some cases this can be accomplished by raising the light above surrounding obstacles. This will necessitate added protection for the light and operators.

  
LAKE G. CHURCHILL JR  
LTC, Artillery  
Commanding

1 Incl.  
as

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Automatic Weapons Data

M-42

1. Each firing battery is composed of 2 platoons, 4 sections per platoon, 2 M-42's per section. (Total 16 M-42's)
2. Each M-42 is armed with 2 40mm guns and 1 M-60 machine gun.
3. Rate of fire: maximum, 240 rnds/min; sustained, 100 rnds/min.
4. Effective range: 3500 meters (limited by self-destructing ammunition)
5. Ammunition
  - a. Type: 40mm, HE-T or HEI-T, SD, Mk 11, w/Fuze, PD, Mk 27.
  - b. Basic Load: 480 rounds on carriage (480 more may be towed)
6. Vehicle
  - a. Full tracked, gasoline driven, air cooled.
  - b. 140 gal. fuel gives an operating range from 35 miles to 100 miles depending on terrain conditions.
  - c. Speeds: Up to 45 mph on improved roads, 25 mph in cross country operations.
7. Weight: 25 tons (airlift by C-124 or C-141)

M-55

1. The M-55 battery is composed of 6 sections, 4 squads per section, 1 M-55 per squad. (Total 24 M-55's)
2. Each M-55 has 4 calibre .50 machine guns on the mount and an M-60 is mounted on the prime mover.
3. Rate of fire: Maximum, 2000 rnds/min; sustained, 200 rnds/min.
4. Effective range: Point targets, 1830 meters; areas targets 6750 meters.
5. Ammunition
  - a. Type: .50 cal.
  - b. Basic load: 10,000 rounds on the prime mover, 10,000 towed.
6. Prime mover: 2½ ton truck w/armor kit.

Incl 1.



7. Weight

- a. Mount only: 3,200 lbs.
- b. Mount, basic load, crew: 8,000 lbs. (carried by 1 CH-47)
- c. M-55 complete (truck w/armor kit, mount, basic load, crew w/equipment) 26,204 lbs. (carried internally by C-124, C-130, C-141)

AN/MSS-3

1. Each searchlight battery consists of 3 platoons with 12 lights per platoon. (Total 36 searchlights)

2. Effective Range:

- a. White light: 3-5000 meters
  - b. Infra-red: 2-3000 meters
3. Vehicle:  $\frac{1}{2}$  ton truck w/180 amp alternator.
4. Weight: 1.5 tons complete (carried by 1 CH-47)

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Incl 1.

2.

UNCLASSIFIED

Security Classification

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